

[illegible]

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gtcccgggag cagaaccggg ctttttcttg gagcgacgct gtctctagtc gctgatccca 180

a atg cac cgg ctc atc ttt gtc tac act cta atc tgc gca aac ttt tgc 229

Met His Arg Leu Ile Phe Val Tyr Thr Leu Ile Cys Ala Asn Phe Cys

1

5

10

15

agc tgt cgg gac act tct gca acc ccg cag agc gca tcc atc aaa gct 277

Ser Cys Arg Asp Thr Ser Ala Thr Pro Gln Ser Ala Ser Ile Lys Ala

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25

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ttg cgc aac gcc aac ctc agg cga gat gag agc aat cac ctc aca gac 325

Leu Arg Asn Ala Asn Leu Arg Arg Asp Glu Ser Asn His Leu Thr Asp

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ttg tac cga aga gat gag acc atc cag gtg aaa gga aac ggc tac gtg 373

Leu Tyr Arg Arg Asp Glu Thr Ile Gln Val Lys Gly Asn Gly Tyr Val

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cag agt cct aga ttc ccg aac agc tac ccc agg aac ctg ctc ctg aca 421

Gln Ser Pro Arg Phe Pro Asn Ser Tyr Pro Arg Asn Leu Leu Leu Thr

65

70

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80

tgg cgg ctt cac tct cag gag aat aca cgg ata cag cta gtg ttt gac 469

Trp Arg Leu His Ser Gln Glu Asn Thr Arg Ile Gln Leu Val Phe Asp

85

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95

aat cag ttt gga tta gag gaa gca gaa aat gat atc tgt agg tat gat 517

Asn Gln Phe Gly Leu Glu Glu Ala Glu Asn Asp Ile Cys Arg Tyr Asp

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ttt gtg gaa gtt gaa gat ata tcc gaa acc agt acc att att aga gga 565

Phe Val Glu Val Glu Asp Ile Ser Glu Thr Ser Thr Ile Ile Arg Gly

115

120

125

cga tgg tgt gga cac aag gaa gtt cct cca agg ata aaa tca aga acg 613

Arg Trp Cys Gly His Lys Glu Val Pro Pro Arg Ile Lys Ser Arg Thr

130

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aac caa att aaa atc aca ttc aag tcc gat gac tac ttt gtg gct aaa 661

Asn Gln Ile Lys Ile Thr Phe Lys Ser Asp Asp Tyr Phe Val Ala Lys

145

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155

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cct gga ttc aag att tat tat tct ttg ctg gaa gat ttc caa ccc gca 709

Pro Gly Phe Lys Ile Tyr Tyr Ser Leu Leu Glu Asp Phe Gln Pro Ala

165

170

175

| | |
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| gca gct tca gag acc aac tgg gaa tct gtc aca agc tct att tca ggg | 757 |
| Ala Ala Ser Glu Thr Asn Trp Glu Ser Val Thr Ser Ser Ile Ser Gly | |
| 180 185 190 | |
| gta tcc tat aac tct cca tca gta acg gat ccc act ctg att gcg gat | 805 |
| Val Ser Tyr Asn Ser Pro Ser Val Thr Asp Pro Thr Leu Ile Ala Asp | |
| 195 200 205 | |
| gct ctg gac aaa aaa att gca gaa ttt gat aca gtg gaa gat ctg ctc | 853 |
| Ala Leu Asp Lys Lys Ile Ala Glu Phe Asp Thr Val Glu Asp Leu Leu | |
| 210 215 220 | |
| aag tac ttc aat cca gag tca tgg caa gaa gat ctt gag aat atg tat | 901 |
| Lys Tyr Phe Asn Pro Glu Ser Trp Gln Glu Asp Leu Glu Asn Met Tyr | |
| 225 230 235 240 | |
| ctg gac acc cct cgg tat cga ggc agg tca tac cat gac cgg aag tca | 949 |
| Leu Asp Thr Pro Arg Tyr Arg Gly Arg Ser Tyr His Asp Arg Lys Ser | |
| 245 250 255 | |
| aaa gtt gac ctg gat agg ctc aat gat gat gcc aag cgt tac agt tgc | 997 |
| Lys Val Asp Leu Asp Arg Leu Asn Asp Asp Ala Lys Arg Tyr Ser Cys | |
| 260 265 270 | |
| act ccc agg aat tac tcg gtc aat ata aga gaa gag ctg aag ttg gcc | 1045 |
| Thr Pro Arg Asn Tyr Ser Val Asn Ile Arg Glu Glu Leu Lys Leu Ala | |
| 275 280 285 | |
| aat gtg gtc ttc ttt cca cgt tgc ctc ctc gtg cag cgc tgt gga gga | 1093 |
| Asn Val Val Phe Phe Pro Arg Cys Leu Leu Val Gln Arg Cys Gly Gly | |
| 290 295 300 | |
| aat tgt ggc tgt gga act gtc aac tgg agg tcc tgc aca tgc aat tca | 1141 |
| Asn Cys Gly Cys Gly Thr Val Asn Trp Arg Ser Cys Thr Cys Asn Ser | |
| 305 310 315 320 | |
| ggg aaa acc gtg aaa aag tat cat gag gta tta cag ttt gag cct ggc | 1189 |
| Gly Lys Thr Val Lys Lys Tyr His Glu Val Leu Gln Phe Glu Pro Gly | |
| 325 330 335 | |
| cac atc aag agg agg ggt aga gct aag acc atg gct cta gtt gac atc | 1237 |
| His Ile Lys Arg Arg Gly Arg Ala Lys Thr Met Ala Leu Val Asp Ile | |
| 340 345 350 | |
| cag ttg gat cac cat gaa cga tgt gat tgt atc tgc agc tca aga cca | 1285 |
| Gln Leu Asp His His Glu Arg Cys Asp Cys Ile Cys Ser Ser Arg Pro | |
| 355 360 365 | |

002160" E329960

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|-----|-----|-----|-----|-----|-----|--|
| Asn | Gln | Phe | Gly | Leu | Glu | Glu | Ala | Glu | Asn | Asp | Ile | Cys | Arg | Tyr | Asp | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Phe | Val | Glu | Val | Glu | Asp | Ile | Ser | Glu | Thr | Ser | Thr | Ile | Ile | Arg | Gly | |
| | | | 115 | | | | | 120 | | | | | 125 | | | |
| Arg | Trp | Cys | Gly | His | Lys | Glu | Val | Pro | Pro | Arg | Ile | Lys | Ser | Arg | Thr | |
| | | | 130 | | | | | 135 | | | | | 140 | | | |
| Asn | Gln | Ile | Lys | Ile | Thr | Phe | Lys | Ser | Asp | Asp | Tyr | Phe | Val | Ala | Lys | |
| | | | 145 | | | | | 150 | | | 155 | | | | 160 | |
| Pro | Gly | Phe | Lys | Ile | Tyr | Tyr | Ser | Leu | Leu | Glu | Asp | Phe | Gln | Pro | Ala | |
| | | | | 165 | | | | | | 170 | | | | | 175 | |
| Ala | Ala | Ser | Glu | Thr | Asn | Trp | Glu | Ser | Val | Thr | Ser | Ser | Ile | Ser | Gly | |
| | | | 180 | | | | | | 185 | | | | | 190 | | |
| Val | Ser | Tyr | Asn | Ser | Pro | Ser | Val | Thr | Asp | Pro | Thr | Leu | Ile | Ala | Asp | |
| | | | 195 | | | | | 200 | | | | | 205 | | | |
| Ala | Leu | Asp | Lys | Lys | Ile | Ala | Glu | Phe | Asp | Thr | Val | Glu | Asp | Leu | Leu | |
| | | | 210 | | | | | 215 | | | | | 220 | | | |
| Lys | Tyr | Phe | Asn | Pro | Glu | Ser | Trp | Gln | Glu | Asp | Leu | Glu | Asn | Met | Tyr | |
| | | | 225 | | | | 230 | | | 235 | | | | | 240 | |
| Leu | Asp | Thr | Pro | Arg | Tyr | Arg | Gly | Arg | Ser | Tyr | His | Asp | Arg | Lys | Ser | |
| | | | | 245 | | | | | <u>250</u> | | | | | 255 | | |
| Lys | Val | Asp | Leu | Asp | Arg | Leu | Asn | Asp | Asp | Ala | Lys | Arg | Tyr | Ser | Cys | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Thr | Pro | Arg | Asn | Tyr | Ser | Val | Asn | Ile | Arg | Glu | Glu | Leu | Lys | Leu | Ala | |
| | | | 275 | | | | | 280 | | | | | 285 | | | |
| Asn | Val | Val | Phe | Phe | Pro | Arg | Cys | Leu | Leu | Val | Gln | Arg | Cys | Gly | Gly | |
| | | | 290 | | | | 295 | | | | | 300 | | | | |
| Asn | Cys | Gly | Cys | Gly | Thr | Val | Asn | Trp | Arg | Ser | Cys | Thr | Cys | Asn | Ser | |
| | | | 305 | | | | 310 | | | 315 | | | | | 320 | |
| Gly | Lys | Thr | Val | Lys | Lys | Tyr | His | Glu | Val | Leu | Gln | Phe | Glu | Pro | Gly | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| His | Ile | Lys | Arg | Arg | Gly | Arg | Ala | Lys | Thr | Met | Ala | Leu | Val | Asp | Ile | |
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SEQ 4

Gln Leu Asp His His Glu Arg Cys Asp Cys Ile Cys Ser Ser Arg Pro
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Pro Arg
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 ttggattaga ggaagcagaa aatgatattct gtaggtatga ttttgtggaa gttgaagata 180
 tatccgaaac cagtaccatt attagaggac gatggtgtgg acacaaggaa gttcctccaa 240
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 ctaaacctgg attcaagatt tattattctt tgctggaaga tttccaaccc gcagcagctt 360
 cagagaccaa ctgggaatct gtcacaagct ctatttcagg ggtatcctat aactctccat 420
 cagtaacgga tcccactctg attgcggatg ctctggacaa aaaaattgca gaatttgata 480
 cagtggaaga tctgctcaag tacttcaatc cagagtcatg gcaagaagat cttgagaat 539
 atg tat ctg gac acc cct cgg tat cga ggc agg tca tac cat gac cgg 587
 Met Tyr Leu Asp Thr Pro Arg Tyr Arg Gly Arg Ser Tyr His Asp Arg
 1 5 10 15
 aag tca aaa gtt gac ctg gat agg ctc aat gat gat gcc aag cgt tac 635
 Lys Ser Lys Val Asp Leu Asp Arg Leu Asn Asp Asp Ala Lys Arg Tyr
 20 25 30
 agt tgc act ccc agg aat tac tcg gtc aat ata aga gaa gag ctg aag 683
 Ser Cys Thr Pro Arg Asn Tyr Ser Val Asn Ile Arg Glu Glu Leu Lys
 35 40 45
 ttg gcc aat gtg gtc ttc ttt cca cgt tgc ctc ctc gtg cag cgc tgt 731

Leu Ala Asn Val Val Phe Phe Pro Arg Cys Leu Leu Val Gln Arg Cys
 50 55 60

gga gga aat tgt ggc tgt gga act gtc aac tgg agg tcc tgc aca tgc 779
 Gly Gly Asn Cys Gly Cys Gly Thr Val Asn Trp Arg Ser Cys Thr Cys
 65 70 75 80

aat tca ggg aaa acc gtg aaa aag tat cat gag gta tta cag ttt gag 827
 Asn Ser Gly Lys Thr Val Lys Lys Tyr His Glu Val Leu Gln Phe Glu
 85 90 95

cct ggc cac atc aag agg agg ggt aga gct aag acc atg gct cta gtt 875
 Pro Gly His Ile Lys Arg Arg Gly Arg Ala Lys Thr Met Ala Leu Val
 100 105 110

gac atc cag ttg gat cac cat gaa cga tgt gat tgt atc tgc agc tca 923
 Asp Ile Gln Leu Asp His His Glu Arg Cys Asp Cys Ile Cys Ser Ser
 115 120 125

aga cca cct cga taagagaatg tgcacatcct tacattaagc ctgaaagaac 975
 Arg Pro Pro Arg
 130

ctttagttta aggagggtga gataagagac ccttttcta ccagcaacca aacttactac 1035

tagcctgcaa tgcaatgaac acaagtgggt gctgagtctc agccttgctt tgttaatgcc 1095

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<213> Homo sapiens

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Lys Ser Lys Val Asp Leu Asp Arg Leu Asn Asp Asp Ala Lys Arg Tyr
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Ser Cys Thr Pro Arg Asn Tyr Ser Val Asn Ile Arg Glu Glu Leu Lys
35 40 45

Leu Ala Asn Val Val Phe Phe Pro Arg Cys Leu Leu Val Gln Arg Cys
50 55 60

Gly Gly Asn Cys Gly Cys Gly Thr Val Asn Trp Arg Ser Cys Thr Cys
65 70 75 80

Asn Ser Gly Lys Thr Val Lys Lys Tyr His Glu Val Leu Gln Phe Glu
85 90 95

Pro Gly His Ile Lys Arg Arg Gly Arg Ala Lys Thr Met Ala Leu Val
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Arg Pro Pro Arg
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<210> 14

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<210> 20
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agaacgaacc aaattaaaat cacattcaag tccga 35

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 Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
 35 40 45
 Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
 50 55 60
 His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
 65 70 75 80
 Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
 85 90 95
 Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu

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002160-091200

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|---|-----|-----|
| 100 | 105 | 110 |
| Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr | | |
| 115 | 120 | 125 |
| Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe | | |
| 130 | 135 | 140 |
| Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr | | |
| 145 | 150 | 155 |
| Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu | | |
| 165 | 170 | 175 |
| Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala | | |
| 180 | 185 | 190 |
| Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp | | |
| 195 | 200 | 205 |
| Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly | | |
| 210 | 215 | 220 |
| Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu | | |
| 225 | 230 | 235 |
| Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser | | |
| 245 | 250 | 255 |
| Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro | | |
| 260 | 265 | 270 |
| Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu | | |
| 275 | 280 | 285 |
| His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys | | |
| 290 | 295 | 300 |
| Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu | | |
| 305 | 310 | 315 |
| His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp | | |
| 325 | 330 | 335 |
| Cys Val Cys Arg Gly Ser Thr Gly Gly | | |
| 340 | 345 | |